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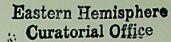
THE RONALD AND MAXINE LINDE FOUNDATION

Dr. John L. Sommer and Dr. Donna M. Sommer

Front cover: Detail of velvet (front). Cooper-Hewitt, National Design Museum, Smithsonian Institution, 1902–1–385, gift of J. P. Morgan. Art Resource, New York. Photo by Matt Flynn. See Sonday, p. 101, fig. 1 (left).

Back cover: Detail of velvet (back). Cooper-Hewitt, National Design Museum, Smithsonian Institution, 1902–1–385, gift of J. P. Morgan. Art Resource, New York. Photo by Matt Flynn. See Sonday, p. 101, fig. 1 (right).

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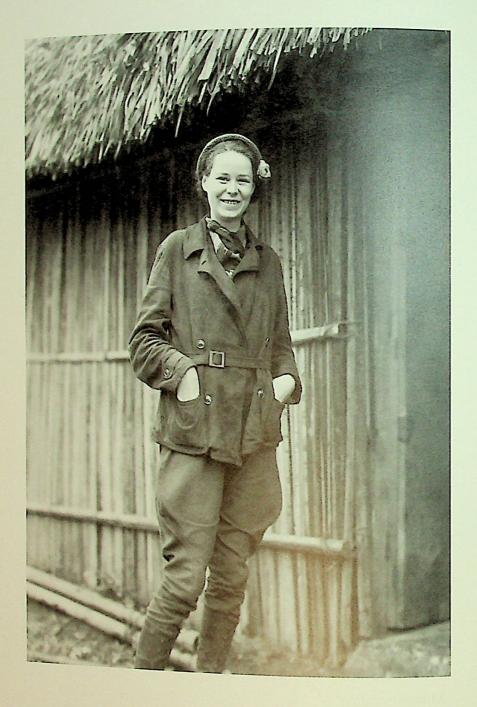
# THE TEXTILE MUSEUM JOURNAL 1999-2000

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Marion Stirling in 1939 at the camp of Tres Zapotes, Veracruz where the Stirlings found the first of the great Olmec heads. Photo by Richard Hewitt Stewart.

### Marion Stirling Pugh (1911-2001)

The Textile Museum has lost a Trustee who shaped the direction of the Museum for over thirty years and who was the last direct link to the Museum's founder, George Hewitt Myers. Profoundly interested in the art and history of weaving, Marion Pugh was a Trustee of The Textile Museum from 1968, serving as Secretary, Treasurer, Vice President, and President.

Marion was just shy of her 90th birthday when she died in Tucson after an extraordinarily productive life that saw continuing accomplishment in a variety of scholarly disciplines ranging from archaeology to geography.

She was born Marion Illig on May 12, 1911, in Middletown, New York, the daughter of Louis and Lena Randall Illig. In 1930, Marion received her BS degree from Rider College, and afterward moved to Washington, DC, where she attended George Washington University from 1931 to 1933. During this time Marion also worked at the Smithsonian Institution's Bureau of American Ethnology as secretary to Matthew W. Stirling, Director of the Bureau. On December 11, 1933, Marion and Matthew were married.

Together the Stirlings shared a career of archaeological adventure and discovery, beginning with a series of joint National Geographic Society-Smithsonian Institution expeditions to explore the little-known ruins of Mexico's Gulf Coast regions between 1938 and 1946. These journeys by Marion, Matthew, and National Geographic photographer Richard Hewitt Stewart took place mainly by boat and horseback through the humid rain forests of Veracruz and Tabasco states. Despite the physical difficulties, the expeditions proved successful beyond all expectations, for they revealed and recorded a truly lost civilization—the Olmec, producers of the famed colossal heads of stone and other remains, dated to around the beginning of the first millennium B.C., that proved it to be one of the earliest high cultures in all of the Americas.

From the Mexican work the Stirlings and Stewart moved on to other areas of the hemisphere, including Ecuador, Panama, and Costa Rica. The results of these expeditions appeared regularly as articles by Marion, Matthew, or both in the *National Geographic Magazine*, *Américas*, and other journals. In 1941, Marion shared with Matthew the prestigious Franklin L. Burr Award of the National Geographic Society.

Marion's ever-broadening interests are reflected in her memberships in the Association of American Geographers and the Society of Woman Geographers, where she served on the Executive Council in 1954, and as President, 1960-63 and 1969-72.

Matthew Stirling died in 1975. One of Marion's prized possessions was a silver pendant that Matthew had made for her in Mexico, embossed with a jaguar mask on the obverse and the date of a stele whose date she decoded on the reverse.

In 1979 Marion married Major General John Ramsey Pugh, the son-in-law of George Hewitt Myers, who was active himself in the work of The Textile Museum. Together they made their home at Little Fiddlers Green, General Pugh's family estate in Round Hill, Virginia. They updated this stone house dating from 1770 to pursue their interests, building a library for their books and memorabilia, and a lap swimming pool.

Marion's interest in Mexican textiles led her to establish the Mexican Research Fund at The Textile Museum for the purchase of textiles for the collection. She both contributed to this fund and also asked that gifts in expression of sympathy on the death of Matthew Stirling be made to it. In 1979, General and Mrs. Pugh broadened the scope of the fund and it was accordingly renamed the Latin American Research Fund. Marion endowed this fund in December 1993. The fund has been the Museum's only source of purchase funds for textiles in this area, making possible many significant additions to the collections from Guatemala, Ecuador, Peru, and Bolivia as well as Mexico. Purchases have been made of material collected in the field in the course of textile research in each of these countries and outstanding examples offered by dealers. Marion also supported other Western Hemisphere Department projects such as fieldwork by curator Ann Rowe in Ecuador, and a forthcoming publication on O'ero textiles from the Cuzco area of Peru.

Art and adventure were Marion's pursuits. We do well to follow in her footsteps.

Ursula E. McCracken Director, The Textile Museum

George E. Stuart Center for Maya Research



Fig. 1. Chinchero man's cap knitted by Nilda Callañaupa in the 1980s. 64 x 27 cm. The Textile Museum 1990.24.2, Latin American Research Fund.

## Men's Knitted Caps from Chinchero

Nilda Callañaupa and Ann Pollard Rowe

Men's knitted caps are in common use in many indigenous communities in the highlands of southern Peru and Bolivia (fig. 1). They are worn instead of or underneath European style brimmed hats. The shape of the caps varies from one area or community to another, but usually they are pointed at the top, and often they have earflaps. Typically they have multicolored designs, similar to the weaving designs of the region. Usually very thin needles are used and the work is correspondingly fine. Some Textile Museum examples from the Cusco area have as many as 7 stitches and 8 rows per centimeter. In some communities the women knit, in others it is the men, and in others both men and women knit.

The local term for these caps in Quechua (the Inca language), *ch'ullu* (or *ch'ullo*) is not found in the earliest Inca dictionaries. The Incas are not recorded to have worn hats or caps, except for military helmets called *'umachuku*, which were apparently made of leather.<sup>2</sup> *'Uma* means "head" and *chuku* was an Aymara word referring to a kind of stiff (not form-fitting) hat worn in pre-Hispanic times in some Aymaraspeaking areas in what is now southern Peru and northern Bolivia.<sup>3</sup> The modern Aymara word for the knitted caps is *lluchu*.

Looped caps, looking superficially similar to the later knitted ones, are nevertheless occasionally found in excavations of pre-Hispanic sites (fig. 2). Looping is an ancient technique in which the end of the yarn is put through the previous work, so it is much more laborious than knitting, in which a loop formed of yarn adjacent to the work is put through a previous loop.4 Although some surviving looped pre-Hispanic caps are in simple looping (buttonhole stitch), the more elaborate example in figure 2 has the loops in vertical alignment, so that it looks like knitting ("cross-knit looping" in Emery's terminology). In looping, however, the loops are always crossed, while in knitting they may be either crossed or open. Most contemporary knitting, including



that of the Cusco area, has a structure with open loops, which is not possible in normal looping. The cap in figure 2 is made in natural colors of camelid hair, with most of the yarns spun and plied in the opposite direction from both ancient and contemporary Cusco area practice. The unused color floats loose on the inside of the cap, unlike most knitted caps made today. The extensions are tubular. Thus, this cap does not seem to be a direct antecedent of today's knitted *ch'ullus*, but it represents a general prototype.

Knitting does not occur in the Americas prior to the European invasion. The date of its introduction into the Andes is unknown, but it must have been some time during the colonial period. The knitting technique is in fact a relatively recent invention even in Europe. The earliest datable examples of knitting that are generally recognized are two silk cushions from the royal tombs of Castile in northern Spain, dating to the second half of the thirteenth century.7 One of the cushions has an Arabic inscription, and indeed other early examples of knitting consist of cotton socks found in Islamic Egypt, which are, however, impossible to date precisely.8 It is therefore possible that the technique is of Islamic origin and was introduced to Spain as a consequence of its being under Islamic rule. The technique used by indigenous knitters in the Andes today has a number of features that are unlike modern knitting techniques familiar in North America and

Fig. 2. Pre-Hispanic looped cap of undyed camelid fiber, possibly found at Ancón on the central coast of Peru. 17.5 x 18.5 cm. The Textile Museum 1961.30.67, gift of Burton I. Jones.

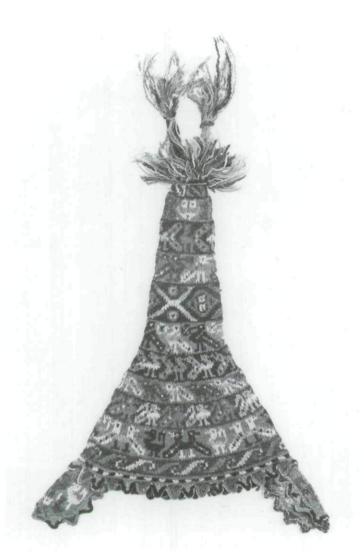


Fig. 3. Old Chinchero man's cap. 46 x 20 cm. The Textile Museum 2000.34.1, gift of Edward and Christine Franquemont.

Europe, and probably represent older techniques that are now no longer used in Spain.

The general features of Andean knitting, known and mentioned in the available literature on knitting, include purling in the round on five needles, with the varn carried around the neck and thrown with the left hand. The emphasis in this literature, however, has been how to replicate the general effects using simple modern techniques rather than detailed field recording of techniques actually used by indigenous people in the Andes. In fact, there is a significant amount of local variation in such techniques, due to regional stylistic differences.9 This article will describe the techniques used in Chinchero, a town near Cusco in southern Peru, which we hope will provide an idea of the riches to be found in closer scrutiny of these traditions. The highlights include a method of handling three colors simultaneously and a distinctive starting border. We also present some new historical information.

#### Knitting in Chinchero

Although knitted caps are still common in many Cusco area communities, they have not been worn since around 1940 in Chinchero. Prior to that time, in the earlier part of the twentieth century, intricately patterned caps were worn in the *ayllus* (sub-communities) of Cuper Alto, Ucutuan, Taucca, and Umasbamba (fig. 3). In the other Chinchero *ayllus*, solid-colored caps were worn—red, dark pink, or white. Bags for money were knitted as well, I although money was also carried between the layers of the traditional women's hats. The bags are known to have been used by women, but it is unclear if they might have been used by men. Knitting was considered women's work in Chinchero.

Until some time in the 1910s or 1920s, knitted sleeves (*maqetos*) were worn by Chinchero men when working (fig. 4). Earlier sleeves had only black-and-white patterns, but later examples have designs similar to those on the lower parts of the caps, as in figure 4. They are clearly knitted from wrist to shoulder in the same manner as the caps. The sleeves are connected by a plain band to prevent them from slipping down the arms. The band in the sleeves illustrated is in garter stitch (presumably purled in both directions); it is continuous from the smaller of the two sleeves and the other end is sewn to the larger sleeve. It has a tuck sewn into it, presumably to compensate for stretching with use.

Although a similar style of knitted sleeves is still made in the Huancavelica area of Peru, 12 the authors have not seen them from other Cusco area communities. In his 1916 publication on body measurements of people from the departments of Cusco and Apurimac (the great majority from Cusco), however, H. B. Ferris illustrates eight men out of a total of 140 wearing knitted sleeves. Seven of these pairs of sleeves are monochrome, but one has black-and-white patterns.13 The monochrome sleeves are longer than the patterned ones and have a flat garter stitch area at the top over the shoulders. Unfortunately, although some provenience information is given for the statistics, this information is not precisely linked to the illustrations, though it is possible that the patterned sleeves belonged to a man from around San Pedro de Cacha, south of Cusco. Thus, the wearing of knitted sleeves in the Cusco area seems not to be unique to Chinchero, but it was clearly not common and was dying out in the early twentieth century.

#### Learning to knit

In 1980 I (Nilda Callañaupa) participated in an Earthwatch project organized by Edward and Christine Franquemont to record oral information from old people in Chinchero. The project was stimulated by a plan to build an international airport in the community, which fortunately has not so far come to pass. As part of the project, I had the opportunity to learn Chinchero style knitting from Doña Roberta Quispe, a sweet and very funny old lady in Cuper Pueblo (but born and raised in Cuper Alto), who had a nice relationship with my parents and grandparents (fig. 5). She was the only person I knew who still knew how to knit the Chinchero style man's cap at that time. In her youth she had knitted caps on commission from many people, including the authorities of Chinchero who wished to confer them on authorities visiting from elsewhere, and for saints' statues and statues of the baby Jesus in the church, etc. She stopped knitting when she was about 50 and her husband died. At around that time, the style of clothing was changing and fewer men were wearing the caps. Although she had not knitted for many years,



the Franquemonts asked her to knit caps for them, which became almost full-time work for her during her last years.

When I first visited her and asked if she could teach me how to knit, she laughed and said to me, "Do you really want to learn to knit? Do you think you have the patience to do it? People your age are no longer interested in traditional things like weaving and knitting.



Fig. 4. Old Chinchero sleeves. 33 x 14.5 and 35.5 x 15.5 cm, strap 61 x 5.5 cm. Collection of Nilda Callañaupa.

Fig. 5. Doña Roberta Quispe of *ayllu* Cuper Pueblo, Chinchero, knitting a cap. She is putting the yarn over the needle. Photo from the Chinchero Archives, courtesy of Edward and Christine Franquemont, 1980.

Those of us who never went to school are the only ones who care about our culture and traditions like knitting." But finally she told me that I could come back the next day. So the next day I visited her again, and this time I took my loom and some of my weavings to show her. Surprised, she invited me into her house and got out her knitting. The room was very dark and I could hardly see what she was doing, but she began to demonstrate, although without offering any explanations. She said to me, "Watch me and see if you still think you are interested. Knitting is for people with a lot of patience, and people of your age never have that talent. You children don't care anymore about the ch'ullus because you don't use them any more. Nobody appreciates the amount of work that is required to knit a cap." It was obvious that she liked to talk, but she was more interested in talking about her youth and her relationship with my family, and complaining about her health problems, etc., than in explaining what she was doing.

Finally, after a few hours of watching and pleasant conversation, she told me to bring my yarn and knitting needles. If I did not have knitting needles, she told me to gather cactus thorns, which is what she had used in learning to knit. The cactus is a species of Opuntia, but it does not flower, which makes it difficult to identify. Doña Roberta said she had learned from older friends when she was a shepherd, at about the age of sixteen. She watched them, decided she wanted to learn, and asked her friends to teach her. Her friends laughed at her and said that knitting was for real women and not for lazy girls. But if she really wanted to learn she could bring yarn and the five longest cactus thorns she could find on the next day. She practiced on small bags before she made men's caps.

This assumption of difficulty in learning is typical in Chinchero and in other parts of the Andean area. Instead of encouraging students as is usual in European cultures, the Chinchero teacher prepares her students to be tough. In order to make sure the student has sufficient determination to learn, the teacher gives the student to understand that it is necessary to pay attention, to practice, and to have patience. The teacher also assumes that the first piece will not be useful and will make the student use less wellspun yarn. The teacher or mother will not provide good yarn until the student learns or else the girl makes her own yarn. The lack of explanations is also typical. The student learns by watching, imitating, and practicing. I was very happy when

Doña Roberta agreed to teach me, and I imagine that others are as well.

When a woman does agree to teach, the student is expected to reciprocate by helping with whatever might be needed. For example, I used to go early in the morning to help cook the soup, and another time I helped cook lunch to take to the workers in her field. The custom is also for the student to take gifts to the teacher, whatever the student thinks she might need or have mentioned. I took my teacher coca leaves each time I visited her, as well as foodstuffs like sugar and coffee. Since my teacher was old, I also brought her medicine and provided personal help. It is also appropriate to give the teacher some special present on her birthday.

When I was growing up and learning to weave, my mother told me to take my first weaving to the big river, which for us is the Urubamba or Vilcanota River. The purpose of giving one's first weaving to the river is to bring good luck, to be a good weaver, and to weave one piece after another and not stop, just as the river is continually flowing.

Finally Doña Roberta began to teach me. She herself started the first steps of making the scalloped edging, telling me to continue and practice until I had learned it. Then I should come back, and she would teach me the next step. She emphasized very strongly how important it was that the knitting be tight. She said that this art was very enjoyable but also timeconsuming. I learned not only knitting from her but also a lot about earlier life in Chinchero. During my lessons, she would say that it is time to cook and you have to help me, and she would give me a basket of potatoes to peel. It was also clear that she had patience for other things besides knitting. She was careful about everything she did.

She also taught her son how to knit. He is a single father (and now also a grandfather) and routinely does both men's and women's work. He is today the finest knitter in Chinchero, and he and I have taught about twenty other people, mostly women, but two other men, how to knit the caps. This new knitting is not exactly the same as the old style. The young people look for easier ways of doing the tricky things, so, for example, instead of knitting the scalloped edge, some make it with crochet. They have also changed some designs and added a few new ones. The newer caps are also not as tightly knitted. But today in Chinchero you can see more men wearing knitted caps than fifty years ago.

#### Knitting techniques

The yarn used is tightly spun and plied, in contrast to normal commercial knitting yarn, which usually has a relatively slack twist. Andean knitters add twist to commercial yarn, using a hand spindle, if they want to use it. The yarn is then wound into balls.

The knitting is done in the round on five needles, four to hold the work and one with which to transfer the stitches (fig. 6). The needles are usually made of wire, but sometimes bicycle spokes are used, though the latter are more often used for knitting sweaters. The needles are pointed on both ends in Chinchero, but in many other places in the Cusco area, one end of each needle is hooked.

The yarn is passed around the neck to maintain even tension. Although in some Andean communities, for example, on Taquile and Amantani Islands in Lake Titicaca, yarns of different colors are passed in opposite directions around the neck,14 in Chinchero and some other communities, the yarns all pass in the same direction (left to right). In other communities where more than three colors are used, these varns are not all passed around the neck. If the knitter is seated, the balls of yarn rest in her lap or on the ground next to her. If the knitter is standing, however, the balls may be tucked under the left arm (fig. 7). In figure 5, the yarn passes around Doña Roberta's neck, then under her shawl, and the balls are tucked under her arm as in figure 7, though they are not visible. Alternatively, some women tie the balls to their belts by passing a cord through the lower windings of the ball.

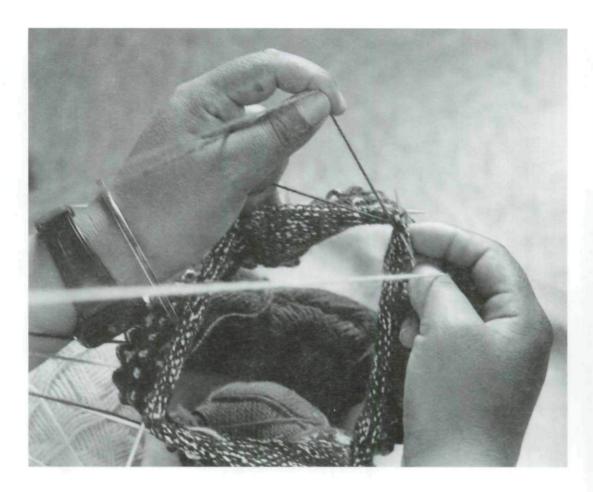




Fig. 6. Nilda Callañaupa knitting with three colors. She is switching the two unused colors, one on each thumb. The balls of yarn used are obviously machine-made, not traditional in Chinchero. Photo by Ann P. Rowe, 1990.

Fig. 7. Doña Roberta making the starting chain, holding two balls of yarn under her left arm. Photo from the Chinchero Archives, courtesy of Edward and Christine Franquemont, 1980.

Fig. 8. Throwing the center of three yarns after the other two have been switched. Photos in figs. 8–11 by Ann P. Rowe. 1990.



The work is done almost entirely in what is usually called purling in English (*tejer de detras* in Spanish) rather than what is strictly called knitting (*tejer a delante* in Spanish). Working on the inside face of the cap, the right needle is inserted in front of the left needle (if the knitter is righthanded), in the front of the stitch. The yarn is held in the left hand and put over the needle from front to back (figs. 5, 8), although in fact back to front gives the same result. When working with one color, the yarn is thrown by just lifting it with the left thumb. The stitches are not crossed.

In Chinchero three colors of yarn are alternated, and the colors are twisted with each other in every stitch so that there are no long floats on the back of the fabric. If the twist is always made in the same direction, the yarns get increasingly twisted; therefore it is necessary to change the direction of twist on a regular basis. The usual practice is to change directions whenever there is a color change in the pattern. If the yarns still get too twisted, the knitter just stops knitting and untwists them. The needle is inserted into the stitch before the threads are twisted. To twist the threads, the color to be thrown and purled is in the center, and the other two colors are switched with each other above the thread to be worked

(figs. 6, 9). Then the center thread is put over the needle to create the stitch (fig. 8). For example, the first or second finger of the left hand hooks around the right thread to pull it left, while the thumb of the right hand draws the left thread to the right (fig. 9). The left thread is held by the lower fingers while the thumb and first finger put the yarn over the needle (fig. 8). The right thread continues to be held by the thumb. In plain areas, additional yarns may still be twisted behind the work, in order that the texture remain the same as in the multicolor areas.

Decreasing is done by binding off a stitch of the background color at regular intervals, usually in the upper part of the designs. Increasing is done by picking up a stitch from the previous row and purling it. Increases are done mainly in a line between rows of pattern. To store unfinished work, the needles are all placed parallel (the free needle may be stuck through the work parallel to the others) and the yarns are wrapped around the ends of the needles and over the work in a figure eight (fig. 10). When adding a new color, the preferred method is to wrap the new yarn around one of the existing colors and knit both ends together for several stitches, until the short end is used up or can be cut off. Doña Roberta



Fig. 9. Hand position for switching the position of the two unused colors of yarn.

frowned on the method of tying the new thread to an existing one, later untying the knot, and darning in the end with a needle.

#### Making the starting border

The cap is begun by making the scalloped edging (picas or puntas) along the bottom. These notes tell how to make scallops with three colors, white, red, and green. Sometimes scallops with four or five colors are made (figs. 3, 4), and notes for these variations follow. The instructions are written for someone who is actually knitting, not observing. Instead of "right" and "left," I refer to the "first needle" and the "second needle." A right-handed person holds the first needle in the right hand and the second needle in the left. For a left-handed person, this would be reversed.

#### Creating a chain

The first step is to make a two-color chain. To tie the ends of the three yarns together, place them all side by side parallel and tie a single overhand knot with all of them. Alternatively, tie only the two colors to be used for the chain and add the third color later. Although one can put the yarns around the neck to make the chain

(fig. 11), Doña Roberta is not doing so in figure 7, since a looser tension does make this step easier.

- Holding the first needle, with the knot below (you can hold it with the thumb and third finger), pass the red yarn behind the needle and over to the front, holding it in place with the first finger of the hand holding the needle.
- 2. Take the white yarn, pass it in front of the red yarn, then behind the needle and over to the front (fig. 11), holding it with the same finger and taking the tail behind the red yarn, where it can be held with the middle finger.
- Insert the second needle into the back of both stitches (behind the first needle).

Fig. 10. Unfinished work prepared for storage.



Fig. 11. Knitting the chained starting border.

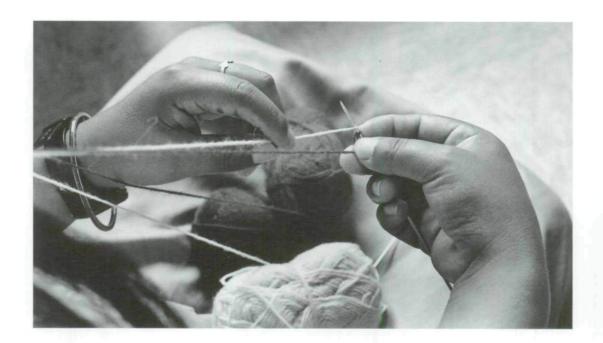
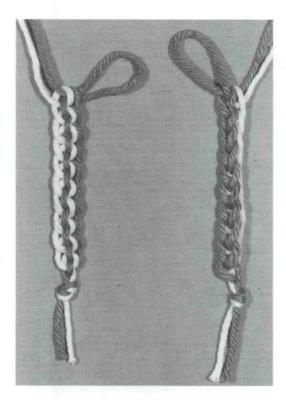


Fig. 12. Starting chain. The two samples show opposite sides of the chain.



- Take the red yarn, and pass it in front of the white yarn and around the first needle from back to front (actually front to back will yield the same result).
- 5. Pull this red loop through both the white and the red loops together. The white will show like a little bump.
- Pull gently on the white yarn, but not too tightly or it will be too difficult to pick up stitches later. Also pull a little on the red yarn.

7. Take the white yarn from behind the red, pass it over the needle back to front, taking the tail behind the red yarn.

Repeat steps 3 through 7 nine times, but ending with step 6, for a total of ten stitches for the first scallop (fig. 12). A total of nine stitches are needed for each subsequent scallop. It is possible to make a long chain first, for many scallops, or to make one scallop at a time. The appearance of the chain includes a row of red stitches forming a simple chain, adjacent to a row of white overlapping stitches, adjacent to a row of red non-overlapping stitches, adjacent to a row of white non-overlapping stitches, which is in turn adjacent to the row of red chain stitches already mentioned. It is the white non-overlapping stitches that form the edge of the scallops.

#### Making the scallops

To begin knitting a scallop, pull the last loop so that it is big (1–2 inches long) and take the needle out of it. Orient the chain so that a row of non-overlapping white loops is framed by red loops.

- 1. Insert the first needle into the first white stitch (back to front). If this is difficult, fold the chain with the white loop on top.
- 2. Insert the first needle into the second white stitch, again back to front.
- 3. Place the second needle through this same (second) stitch behind the first one (front to back). Wrap the green yarn around the first needle back to front, and pull it through to

create a stitch (or pass the white stitch over the green one). Note that this is actually purling, not "knitting." Keep the green yarn in front of the work.

- 4. Insert the first needle (which is holding the green stitch) into the next white stitch of the chain (as in step 1 or 2).
- 5. Insert the second needle behind the first one through this same white stitch, wrap the green yarn around the first needle and pull the green stitch through, or pass the white stitch over the green one (as in step 2).
- 6. Repeat steps 4 and 5 three times until you have five green stitches in all.
- 7. Place the second needle through the front of the second stitch from the end and pass this stitch over the first one, off of the needle (bind off one stitch).
- 8. Repeat steps 4 and 5.
- Place the second needle through the fronts of the second and third green stitches and pass them over the first stitch, off of the needle (bind off two together).
- 10. Repeat steps 4 and 5.
- 11. Repeat steps 9 and 4 and 5. There will be three green stitches on the needle.
- 12. Move the green thread to the back of the work. Place the second needle into the back of the last green stitch, pass the green yarn around the second needle, and pull the loop through with the second needle. Do the same with the remaining two green stitches. This is basically knitting backwards, that is, knitting (not purling) left-handed.
- 13. Move the green yarn to the front, and purl the same three stitches.
- 14. Pick up the next white stitch with the first needle, but don't work it.
- 15. Repeat from step 4 to 14 until you have enough scallops for a cap or bag of the desired size.

For five-color scallops (fig. 13), three colors of yarn are tied together for the chain. The chain is made as described above, but the third color is twisted with the red yarn before the yarn is thrown (see description of twisting above). After 10 stitches for the first scallop or 9 for subsequent ones have been made in this way, the color use is changed and the third color exchanges places with red. These two colors are exchanged after each scallop. The role of white remains the same.



Fig. 13. Detail of the fivecolor starting border of the Chinchero sleeves in figure 4.

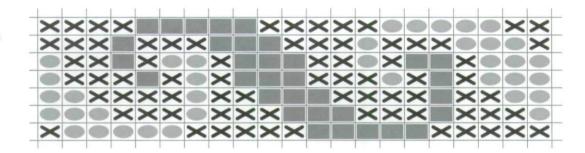
Two additional colors can also alternate in filling in the scallops. The ends are tied together at the beginning. After the first stitch, the color not being used as filler is twisted with the one in use before the yarn is thrown. The color not being used for that scallop is dropped before the knitting backward starts. That color is picked up again to begin knitting the next scallop. Be sure to change the direction of twist with each color change. If doing these extra color changes, it is easier to make the chain for one scallop at a time.

#### The stripe-and-check border of the cap

The straight edge of the cap begins with a design called *ñaccha* (comb) or *k'utu* (a bump, such as a loop, stitch, or knot). First divide the scallops onto four needles. Hold the finished work in the secondary hand and transfer one stitch at a time to a needle held in the primary hand. It is not necessary to count the stitches—just distribute the work so it looks like about the same number of stitches on each needle. To make a tube, put the ball of red yarn through the large red loop at the end of the work; then pull the loop tight.

1. Using the red yarn, purl all the way around the cap. When all the stitches have been transferred to the new needle, move them to the middle of the needle before moving on. This will help prevent them from slipping off by mistake.

Fig. 14. Diagram of the fret pattern found in the first row above the border in Chinchero knitting. Diagram by Nancy Bush based on a sketch by Nilda Callañaupa.



2. With the same red yarn, knit another row. To knit with a single color, move the red yarn to the back of the work and place it over the left forefinger. Insert the first needle behind the second one, in the back of the stitch. If the previous row has been purled, it is hard to insert the needle behind, so one can insert it in front first and then move it to the back (underneath). To pass the yarn over the needle (front to back), it is only necessary to tilt the hand slightly. To pull it through, you can hold the thread between the first finger and thumb of the left hand, holding the needle with the lower fingers. Alternatively, you can hold the yarn with the right forefinger.

The next two rows alternate two blue and two white stitches, with the white stitches above each other and the blue ones above each other.

- 3. Add the blue yarn. To purl the first row of blue and white, these yarns must be moved to the inside of the work: put the balls through the square made by the needles. Drop the red and put the blue and white yarns around the neck. When changing colors, no special maneuver is needed. But when purling the second stitch of the same color, after the needle is inserted, cross the two colors before throwing the yarn, so that the unused color is held down, but not twisted. The hand motion used to cross the colors and throw the yarn is analogous to that used for three colors, but is not perfectly consistent.
- 4. Knit the next row. After knitting the first two blue stitches, move the yarn to the inside of the work, and move the white yarn to the outside in order to knit those two white stitches. Then move the blue back inside and the white outside, etc. This will create twostitch long floats of each color on the back.
- 5. Before purling the next row of red (as in step 1), twist the red with the blue and white. Continue twisting the red with the blue and

- white for several stitches before cutting off the blue and white.
- 6. Knit another row of red (as in step 2). This completes the border.

#### Purling the designs

The design band is begun by purling a row of green for the background. In the next row the alternation of three colors begins. White and green are already available, so a third color, yellow, is added.

The patterns are learned by counting the stitches in a previously knitted article. Figure 14 shows the fret design typically knitted in the row above the border. Soon, the knitter knows the patterns well enough to be able to work each row solely with reference to the previous one.

#### Making the top tassel

After completing the 3-color pattern, don't bind off, but divide the loops into three sections. Note that it is now necessary to decide where the earflaps will be. Purl three separate tubes, each a different color. For such small tubes it may be difficult to use five needles, so three or four can be used instead. When binding off, bind off one stitch from each side of the tube together, so that the tube is closed. Cut the lengths for the fringe, thread each one on a needle (or in groups of two or three), and put the needle through the cap so each length is centered. Then use a sewing needle and sew two rows of chain stitches over where the fringe was put through in order to secure it.

#### Making the earflaps

For the earflaps (*ninry*), pick up the requisite stitches from the first row of red at the top of the scalloped border. Purl back and forth (garter stitch) until the work will no longer be covered up by the border scallops. Then alternate rows of purling and knitting in the rest of the triangle. Make the border scallops separately (through the first two red rows) and then sew them on. Tack down the tips of the scallops on the hat by sewing them to the earflaps with a matching yarn.

#### Historical Speculations

The use of tubular purling on five (hooked) needles in multiple colors with the yarn held in the left hand and passing around the neck has also been recorded in this century in rural Portugal. <sup>15</sup> It seems likely that since the Andean countries were part of the Spanish, and not the Portuguese, empire, this technique was also formerly used in Spain, but it has apparently by now been replaced by modern techniques. Some of these same technical features have also been recorded in parts of Greece, Turkey, and rural Egypt; <sup>16</sup> it therefore seems likely that they were introduced to the Iberian peninsula by the Arabs.

The knitted sleeves provide a further clue about the Spanish source of this technique. The concept of separate sleeves is derived from Spanish costume. Women's dresses of the late fifteenth and early sixteenth centuries had detachable sleeves, and some of these were knitted. Detachable knitted sleeves with multicolored patterns survived as part of the traditional women's costume in Orbigo in León, until early in the twentieth century. León is not very far from northern Portugal, so this seemingly tenuous connection may have some significance as a possible source for the Andean techniques.

#### Addendum: Knitting in Guatemala

Ann Pollard Rowe

It is usually assumed in the literature on knitting that the technique used in Guatemala is similar to that used in the Andes. As it turns out, this is not the case. When working on The Textile Museum exhibition Looping and Knitting, A History, presented in 1997, I realized that our knitted wool bags from Sololá, Nahualá, and Zacualpa were made with the loops crossed (in the Z direction), in notable contrast to the familiar open loops of Andean knitting (figs. 15, 16).19 I also found that the Guatemalan bags were knitted from the bottom up, whereas Andean bags are knitted from the top down. The bags in figures 15 and 16 have an interesting start at the bottom. The yarn zigzags from one side of the bag to another, with a twist (Z) into which the first loop is knitted, and a two-span float (Z) in the center. Some of the other bags have a simpler looped start. Most of the Guatemalan bags are worked in two colors, usually black and white, though the one in figure 16 is red and white, and our collection also includes one plain white



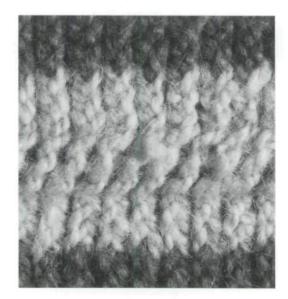


Fig. 15. Knitted wool bag purchased in Sololá, Guatemala, 1937–40. 39 x 40 cm, excluding strap. The Textile Museum 1964.65.140.

Fig. 16. Detail of the starting edge (bottom) of a knitted wool bag purchased in Sololá in 1940, but possibly made in Chichicastenango. The Textile Museum 1965.51.29, anonymous gift.

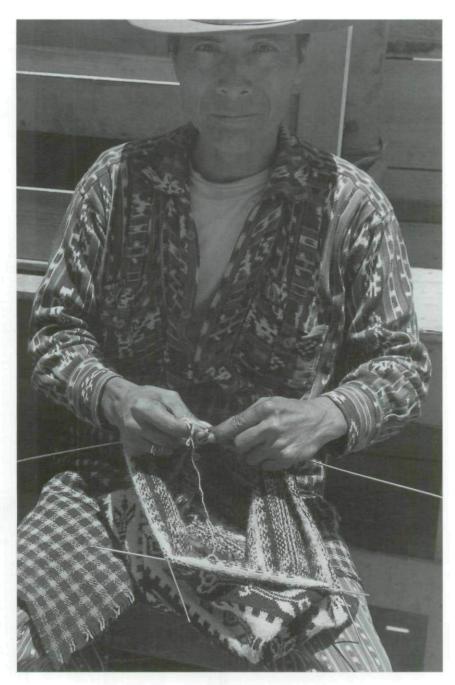


Fig. 17. Sololá man knitting. Photograph by Marilyn Anderson, 1976.

example. The Sololá bags and the one in figure 16 have the unused color carried under the main color on the back, similar to Andean practice, while the Zacualpa and Nahualá bags have the extra color floated on the back.

Checking the literature on Guatemalan textiles, however, I realized that no one has described the technique used, and the only person who has recorded it seems to be the photographer Marilyn Anderson.20 At my request, Anderson supplied me with a photograph from the same contact sheet that shows the technique even better than in her previously published photograph (fig. 17). From this photograph, it is apparent that the bags are made in the round using five needles, similar to the Andean technique, but that the knitting is done from the right or "knit" side, in obvious contrast to the Andean method. The end of the needle visible between the man's legs appears to be hooked. The man is holding the yarn between his right thumb and first finger and it clearly does not pass around his neck. Although the balls of yarn are not actually visible, it appears that they are inside the bag. The details of inserting the needle and throwing the yarn are unfortunately unclear.

The differences in the knitting techniques of the Andes and Guatemala suggest that knitting was introduced into these areas from different places in Spain, and that there was regional variation in knitting techniques within Spain. While crossed knitting has not previously been noted in Spain, there are in fact relatively few early examples of Spanish knitting that have been preserved and published, so such a gap in our knowledge cannot be taken to be definitive. Crossed knitting is found in some Balkan and Turkish pieces (crossed either Z or S), so it certainly was known in the Arab world.

Additional information on this subject would be highly desirable. Part of the purpose of this addendum is to draw attention to the questions raised, in the hope that someone might investigate further. A more recent monograph on Sololá textiles says that the bags are knitted on a circular needle made of two bicycle spokes or regular knitting needles joined by a cord. <sup>21</sup> Thus it appears that the technique has been modernized in the ten years since Anderson took her photographs.

#### Acknowledgments

All information on Chinchero knitting is from Nilda Callañaupa, who is a native of Chinchero and wrote the initial draft of the article. In 1990 Nilda Callañaupa visited The Textile Museum and taught the techniques to Ann Rowe, who recorded it at that time. The technical text was thus edited by Ann Rowe on the basis of this experience, then checked again by Nilda Callañaupa. The introductory and concluding sections providing non-Chinchero background information and references are by Ann Rowe.

We are grateful to Edward Franquemont for his interest in the article and for providing the photographs in figures 5 and 7 as well as the old cap in figure 3. The photographs in figures 1, 3, 12, and 16 are by Franko Khoury. Those in figures 2 and 15 are by Jeffrey Crespi. Those in figures 4 and 13 are by Ann Rowe.

#### About the Authors

Nilda Callañaupa A. was born in Chinchero where she learned the textile skills traditional in her community. She holds a master's degree in the tourism program from the San Antonio Abad National University in Cusco and worked for nineteen years at Peruvian Andean Treks in Cusco in various capacities, ending as assistant to the manager. In addition, she has made many trips to the United States and Canada to give lectures and workshops on Andean textiles and contemporary Andean culture, including at The Textile Museum. In 1996 she founded the Center for Traditional Textiles of Cusco, of which she is the director and president. The Center, which works to preserve the traditional textile culture of the Cusco area, is affiliated with Cultural Survival in the United States and has also been recognized by the National Institute of Culture in Peru.

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#### Notes

- 1. LeCount 1990 shows a broad range of examples.
- 2. Rowe 1997b, p. 29.
- 3. LeCount (1990, p. 26) is mistaken that Cieza de León uses the word "chullo." She references a translation, not a transcription of his text, which in fact uses the word "chuco," a hispanicized spelling of "chuku" (Cieza 1553, cap. 100, fol. 125; 1984, p. 274).
- 4. For a more detailed discussion of looping versus knitting, see Rowe 1997a, based on Emery 1980, pp. 31–32, 39–42, in turn based on Bühler-Oppenheim and Bühler 1948, pp. 93–99, 107–13.
- 5. The beige yarns are spun S and two-plied Z, while the dark brown yarns are spun S, two-plied Z, and two-replied S or vice versa. Both Inca yarns and contemporary Cusco area yarns are typically spun Z and two-plied S. In the looping, the loops are crossed Z. Harcourt (1962, pl. 71) illustrates a similar pre-Hispanic cap, said to have been found at the central coast site of Ancón, and which has ties that are missing in the Textile Museum piece. The cap might have been an import to Ancón, but it is hard to say from where.
- 6. LeCount (1990, p. 26, fig. 3.3) illustrates another interesting looped cap, said to be Uru, from northern Bolivia—geographically closer than the Textile Museum piece illustrated.
- 7. Rutt (1987, pp. 39–44) is a recent discussion, also providing references to earlier publications. These pieces are illustrated in color in Morral and Carbonell eds. 1997, p. 46, pls. 5–6, and p. 458, item 167, discussed pp. 43, 45 in the text by Montse Stanley. The same book also illustrates a pair of silk gloves from the grave of an archbishop of Toledo, who died in 1247 (p. 64, pl. 13, discussed p. 62).

It is noteworthy that this book, which draws primarily on collections in Spain, includes virtually nothing that appears to be antecedent to Latin American knitting. The few examples of pre-nine-teenth-century two-color knitting shown are said to have floats on the back. Probably the explanation has to do with the book's emphasis on upper-class and city knitting, as opposed to the country and peasant traditions that are more likely to show some connection with country and peasant traditions in the Americas.

- 8. Rutt (1987, pp. 33–39) again provides references to earlier publications.
- 9. In addition to LeCount 1990, see, for example, Gibson-Roberts 1995.
- 10. See also LeCount 1990, p. 68, pl. 5, left; Meisch ed. 1997, pp. 127–28, cat. no. 207 (same piece as LeCount).
- 11. LeCount 1990, p. 68, pl. 5, top row, item 2, and p. 89, graph 3; Meisch ed. 1997, pp. 126–28 (cat. no. 206 is the same as in LeCount).
- 12. For Huancavelica sleeves, see LeCount 1990, pp. 12–13, figs. 2.4–2.6, p. 67, pl. 4; Noble 1995.
- 13. The patterned sleeves are shown in pl. VIII, figs. 51–52; the monochrome ones are pl. XVII, fig. 107 and pl. XLVI, fig. 106 (same man); pl. XXI, figs. 138–39; pl. XXI, figs. 140–41; pl. XXV, figs. 160–61; pl. XXV, fig. 162; pl. XXVI, fig. 167–68; pl. XXIX, figs. 187–88.
- 14. See, for example, Frame 1983, pp. 26-27.
- 15. Rutt 1987, pp. 22, 24, 203.
- 16. Besides Rutt, see Stanley 1986, p. 26; Edraos 1990.
- 17. R. M. Anderson 1979, pp. 190-95.
- Ortiz Echagüe 1957, p. 185.
- 19. The Textile Museum's bag from Zacualpa is 1984.37.4, Latin American Research Fund; from Nahualá is 1983.18.2, gift of Bertoldo Nathusius (not new when given); a plain white bag, purchased in Sololá 1937–40, but possibly from Nahualá, is 1964.65.135. Osborne (1975, p. 271) says that wool bags are also knitted in Santa Catarina Palopó and Joyabaj.
- 20. M. Anderson 1978, fig. 215. Rutt (1987, p. 203) gives the impression that Lila O'Neale recorded this technique, but in fact she describes only the finished wool bags, and superficially at that.
- 21. Mayén de Castellanos 1986, p. 74; 1988, p. 78.

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